OMRON

DX Series
Dashboard Generator

User's Manual

Precautions for Correct Use

If you are using the package, please make sure to update to the latest version of both the package and the DX1 unit.
You can obtain the package files from the license portal below and upload them to the Data Flow Controller to use the package.

https://license-user.automation.omron.com/

For detailed upload instructions, please refer to the dashboard generator manual, section "2-4 Installation Procedures for Non-Pre-installed Packages."
For details on updating the DX1 unit version, please contact your OMRON sales representative.

N700-E1-03

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Introduction

Thank you for purchasing our DX-series Data Flow Controller.
This manual provides information about the packages included with the DX Series Data Flow Controller.
Please read this manual and make sure that you understand the functionality and performance of the product before you attempt to use it in a control system.

Intended Audience

This manual is intended for the following personnel, who must also have knowledge of electrical systems (electrical engineers or the equivalent).

- Personnel in charge of designing and operating data utilization systems on a production site.
- Personnel in charge of designing and operating maintenance systems on a production site.

Guidance for Reading This Manual

For information on **Terms and Conditions Agreement**, **Precautions for Safe Use**, **Precautions for Correct Use**, and **Related Manuals**, refer to the *DX Series Data Flow Controller User's Manual (V241-E1)*.

Revision History

A manual revision code appears as a suffix to the catalog number on the front and back covers of the manual.

Revision code	Date	Revised content
01	October 2025	Original production
02	October 2025	Corrected mistakes
03	May 2026	Version upgrade support (V1.1.0)

Version Upgrade Details for the Dashboard Generator

Item	V1.0.1	Changes in V1.1.0
Measurement Data Acquisition Cycle	The measurement data acquisition cycle from the condition monitoring device was fixed at 10 s. Therefore, there was no setting available for the acquisition cycle.	The acquisition cycle can now be changed. A function to input the acquisition cycle setting has been added.
Threshold Setting Function	The thresholds for the condition monitoring device were previously set in the Dashboard Generator.	The thresholds and alarms configured in the condition monitoring device are now collected and displayed on the dashboard. It is no longer necessary to configure thresholds in the Dashboard Generator.

Sections in this Manual

CONTENTS

1

Features and System Configuration

Describes the key features and system architecture of the Dashboard Generator.

1-1 Capabilities of the Dashboard Generator

Dashboard Generator is software that automates the configuration of SpeeDBee Synapse and Grafana on the Data Flow Controller.
Configuration settings are provided via packages, which are distributed as ZIP files.
Multiple types of packages are available, each preconfigured with device setups and visualization settings tailored to specific purposes.
By utilizing these packages, users can visualize KPIs for improvement decisions and monitor equipment conditions to identify failure causes, enabling efficient implementation of maintenance systems.

Configuration Data	Content
① Dashboard Generator	Dashboard Generator is software that automatically configures the Synapse and Grafana web applications. Configuration data is included in the associated ② Package. Some settings require manual configuration within Dashboard Generator. Automatic configuration of IO-Link masters is also supported. The tool is launched from the Data Flow Controller.
② Package	A configuration file uploaded to Dashboard Generator. This file contains settings for data transformation (SpeeDBee Synapse) and graph visualization (Grafana). Select the appropriate package based on the intended application.

1-1-1 Pre-installed Packages

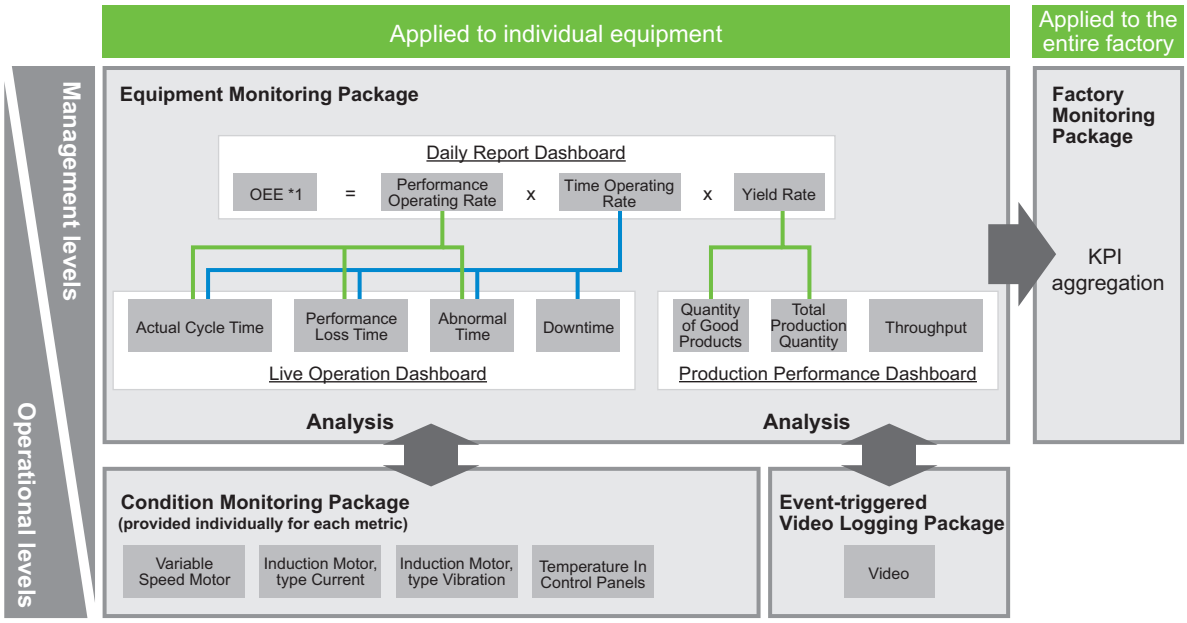
The following packages are pre-installed on the Data Flow Controller and are ready for immediate use.

Package	Description	Manual
Equipment Monitoring Package	Visualizes the KPIs (Key Performance Indicators) of a single piece of equipment.	SGTE-730
Factory Monitoring Package	Visualizes the KPIs of multiple pieces of equipment.	SGTE-731
Condition Monitoring Package (Variable Speed Motor)	Visualizes the status of variable speed motors.	SGTE-732
Condition Monitoring Package (Induction Motor, type Current)	Visualizes the status of induction motor current.	
Condition Monitoring Package (Induction Motor, type Vibration)	Visualizes the status of induction motor vibration.	
Condition Monitoring Package (Temperature In Control Panels)	Visualizes the temperature inside control panels.	
Event-triggered Video Logging Package	Enables video confirmation of equipment operation status when equipment errors occur.	SGTE-733

Each package can be used as-is for the system configuration defined by the package.
If the actual system configuration differs from the one defined in the package, the user can customize the differing parts to enable usage.
This approach allows for more efficient configuration compared to creating all settings from scratch.
When using multiple packages, there are limitations on the number and combinations.
For details, refer to *A-2 Simultaneous Use of Multiple Packages* on page A-4.

1-2 Visualizable KPIs and Objectives

The following overview describes the packages configured by Dashboard Generator.
Each package consolidates KPIs collected from individual devices.
These KPIs include metrics such as Overall Equipment Effectiveness (OEE) for operational improvement and internal panel temperature for equipment maintenance, all of which can be visualized.
Information can be seamlessly integrated across management and operational levels, enabling immediate use of meaningful data.



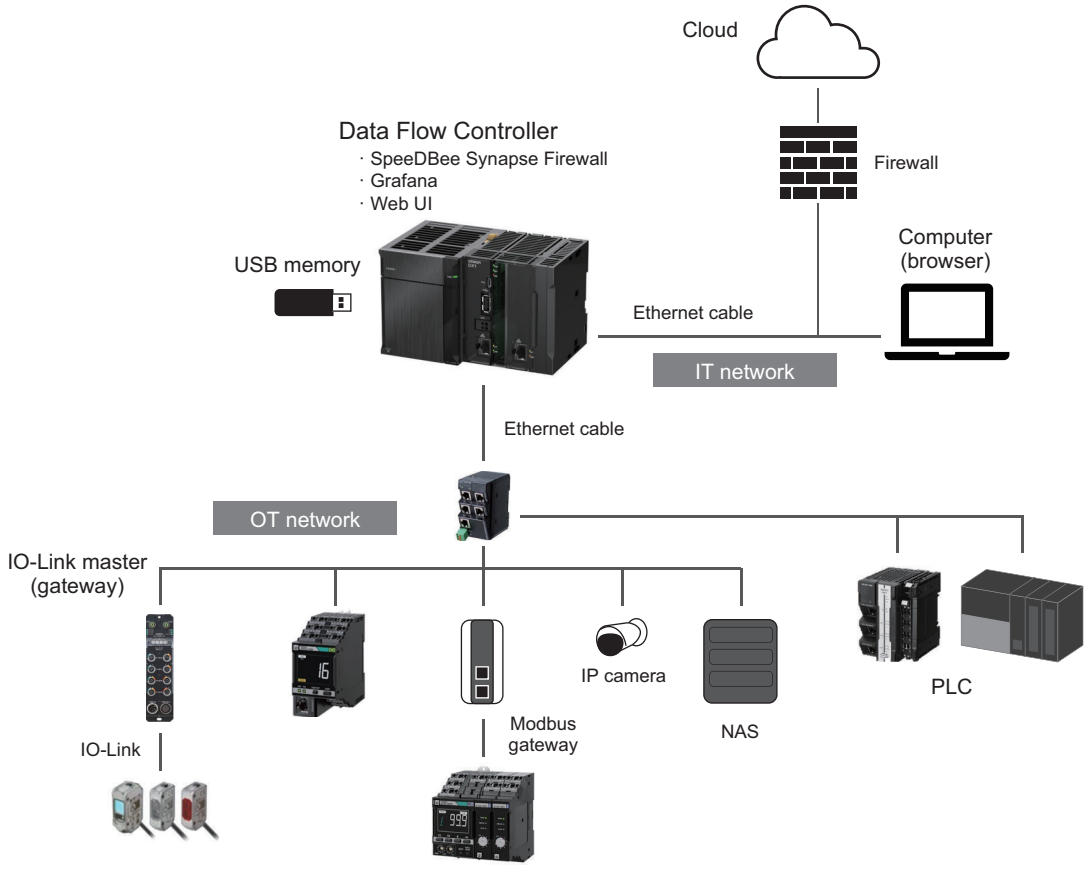
1-2-1 Acquisition KPI for each package

Package	Acquisition KPI	Main measuring equipment
Equipment Monitoring Package	OEE (Overall Equipment Effectiveness), Applied to the entire factory, Time Operating Rate, Yield Rate, Actual Cycle Time, Performance Loss Time, Downtime, Abnormal Time, Total Production Quantity, Quantity of Good Products, and Throughput	• Photoelectric sensors • I/O catchers etc.
Factory Monitoring Package	Overall Equipment Effectiveness (OEE), Yield Rate, Performance Operating Rate, Time Operating Rate	---
Condition Monitoring Package (Variable Speed Motor)	RMS Voltage and other K7DD feature quantities (142 items) Selectable for display on the dashboard screen	• K7DD Motor Condition Monitoring Device
Condition Monitoring Package (Induction Motor, type Current)	Current Value, Degradation Level 1, Degradation Level 2	• K6CM-CI Motor Condition Monitoring Device (Comprehensive current diagnosis type)
Condition Monitoring Package (Induction Motor, type Vibration)	Speed, Acceleration, Motor Temperature	• K6CM-VB Motor Condition Monitoring Device (Vibration & temperature monitoring type)
Condition Monitoring Package (Temperature In Control Panels)	Temperature (Sensor 1 to 31)	• K6PM-TH Thermal condition monitoring device
Event-triggered Video Logging Package	Video Recorded During Abnormal Events	• IP cameras • I/O catchers etc.

1-3 System Configuration

A system using the DX-series Data Flow Controller consists of a computer, IT devices, OT devices, etc. that are connected via Ethernet.
For example, you can use the Data Flow Controller to collect and process data from an OT network and send it to a server or system on an IT network. Also, you can use a computer connected to the Data Flow Controller to visualize and check the collected and processed data.
The Data Flow Controller is equipped with SpeeDBee Synapse as data collection software and Grafana as data visualization software.

Connect your computer to the Web UI on the Data Flow Controller via a browser, and then use the Web UI to set up the Data Flow Controller, SpeeDBee Synapse, and Grafana and visualize data in Grafana.



Refer to the manual of the Package in use for details on the required system configuration.

2

Operating Procedure

This chapter explains the procedure for installing packages using the Dashboard Generator.

2-1 Overall Workflow

The following overview describes the packages configured by Dashboard Generator.
Refer to the manuals or instruction manuals of each device for wiring, installation, configuration, and software startup procedures.

Configure all devices on the same network

Wiring, installation, and configuration of measurement devices	Refer to the manuals or instruction manuals for the measurement devices in use.
Wiring, installation, and configuration of the Data Flow Controller	Refer to *3 Installation, Wiring, and Turning ON/OFF the Power Supply* in the *DX-series Data Flow Controller User's Manual*.

Launch the Dashboard Generator

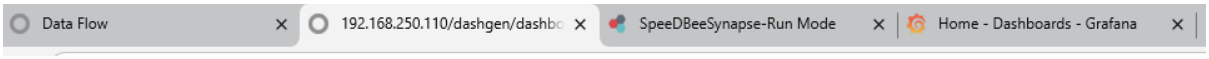
Start the following web applications: • Dashboard Generator • SpeeDBee Synapse • Grafana	Refer to *4-1 Operating Procedure from the First Login to User Registration* in the *DX-series Data Flow Controller User's Manual*.
	Refer to *4-3 Procedure for Collecting and Visualizing Data Using Dashboard Packages* in the *DX-series Data Flow Controller User's Manual*.
Perform initial setup of the Dashboard Generator	Refer to *2-2 Basic Operations of the Dashboard Generator* on page 2-3.

Package Installation Procedure

Selecting a Package	If using a pre-installed package, refer to *2-3 Pre-installed Package Installation Procedure* on page 2-5.
	If using a package other than the pre-installed ones, refer to *2-4 Installation Procedure for Non-Pre-installed Packages* on page 2-7.
Changing the Data Storage Location	Switch the storage location from the internal memory of the Data Flow Controller to a USB memory device. Refer to *2-5 Changing the Data Storage Location* on page 2-8.
Setting the Data Range Handled by the Dashboard	Configure the data range to be displayed or calculated. Refer to *2-6 Setting the Data Range Handled by the Dashboard* on page 2-11.

2-2 Basic Operations of the Dashboard Generator

Describes the procedure from logging into the Dashboard Generator to applying configuration settings to SpeeDBee Synapse and Grafana.
Execute this procedure after logging into SpeeDBee Synapse and Grafana in advance.



2-2-1 Operating the Dashboard Generator

The table below outlines the procedure from logging into the Dashboard Generator to applying settings in SpeeDBee Synapse and Grafana.

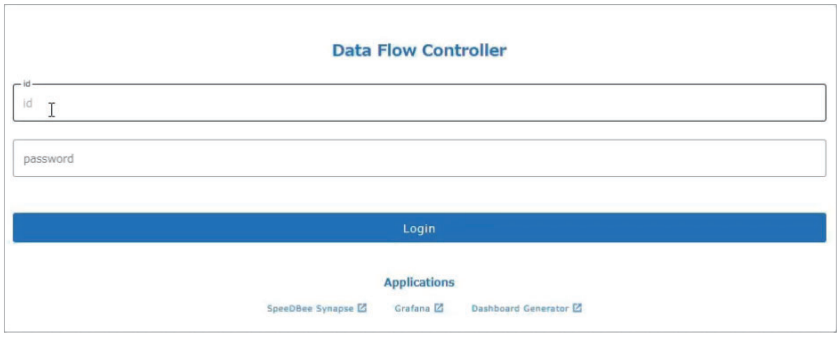
Communication protocols		**IO-Link**	**Ethernet/IP**	**ModbusRTU**
Package		**Equipment Monitoring Package Factory Monitoring Package**	**Condition Monitoring Packages** • Induction motor, type current • Induction motor, type vibration • Temperature in control panels	**Condition Monitoring Package** • Variable speed motor
Operation procedure	Log in	✓	✓	✓
	Perform device scan	✓	✓	✓
	Configure IO-Link master (automatic or manual)	✓	---	---
	Register Modbus RTU devices	---	---	✓
	Select devices	✓	✓	✓
	Register dashboard	✓	✓	✓

Registering a dashboard triggers the application of settings to SpeeDBee Synapse and Grafana.
Refer to the user manual for each package for detailed operating procedures.
Only the login screen is common across packages and is described in this manual.

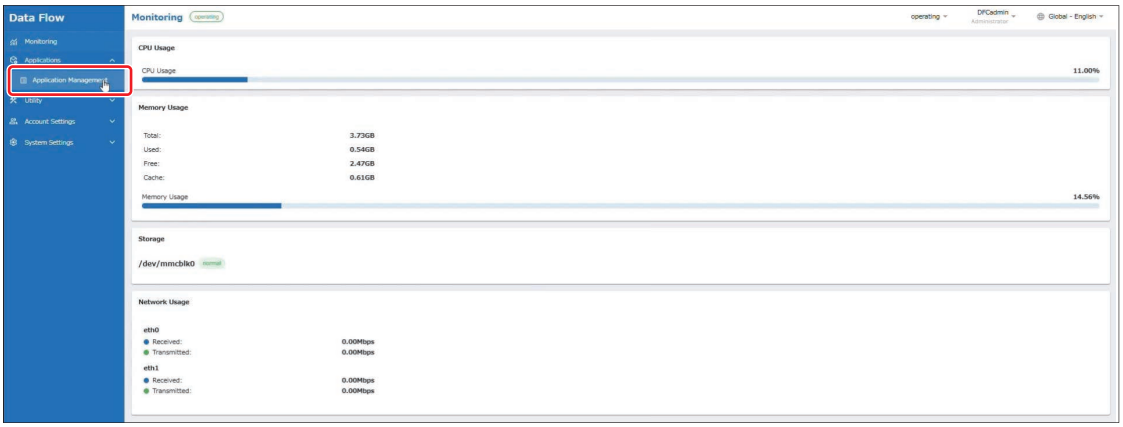
Login

1 Enter the Web UI username (user ID) and password, then click the **Login** Button.

For details on accessing the Web UI, refer to *Chapter 5-1 of the DX-Series CPU Unit User's Manual*.



2 Click **Application Management**.

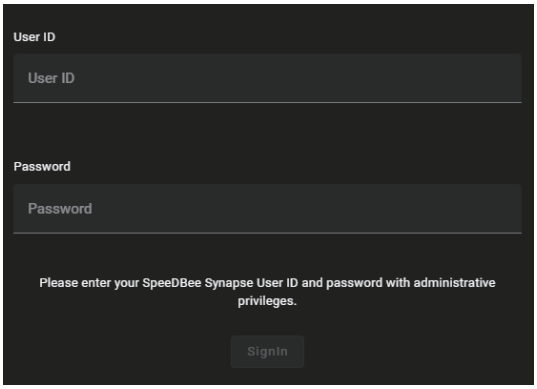


3 Click the **Connect** link text for **/dashgen** in the **Application List**.

The *Dashboard Generator Screen* will appear.

4 On the login screen, enter your username and password, then click the **Login** Button.

The password is the same as the one configured for the Synapse administrator user.
The *Dashboard List Screen* will appear.



2-3 Pre-installed Package Installation Procedure

The Grafana dashboard allows real-time monitoring of each KPI.
This section introduces example operational screens for each package.

2-3-1 Usage Scenario

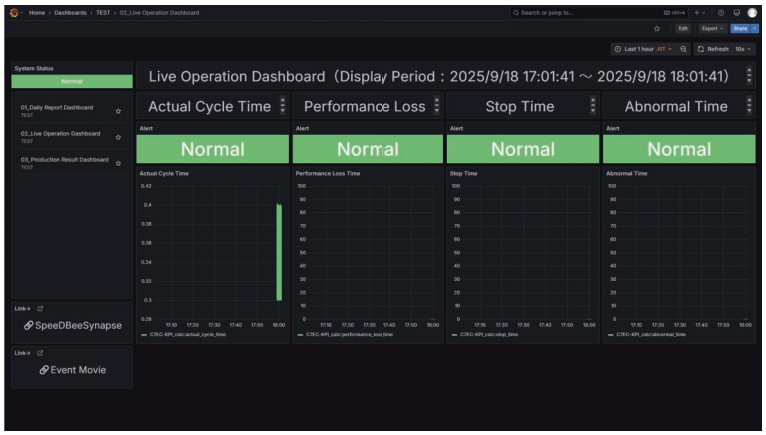
Equipment Monitoring Package

Grafana **Dashboard Views**

For management

Drill-down functionality

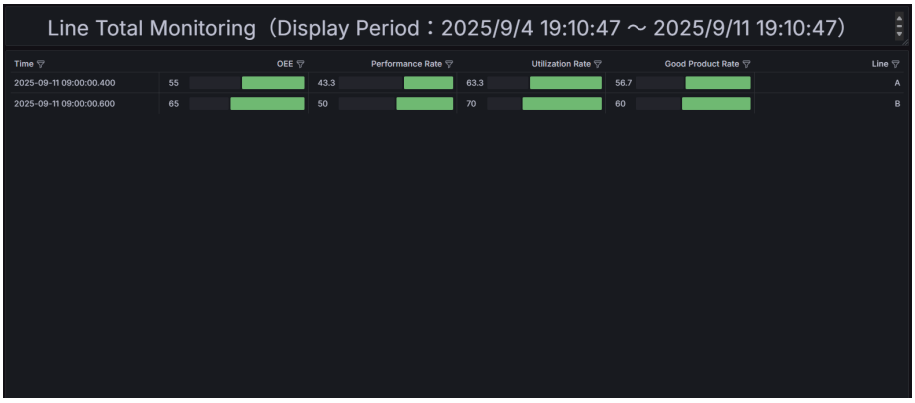
For operations



Refer to *2-2 Basic Operations of the Dashboard Generator* and the *DX Series User's Manual Equipment Monitoring Package Edition* for the operation procedure.

Factory Monitoring Package

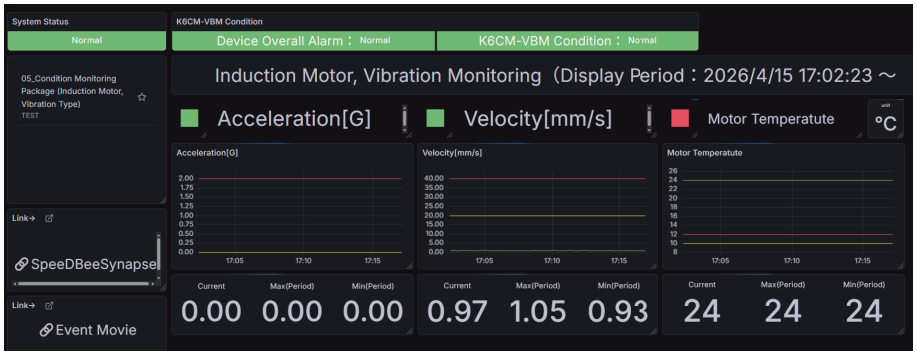
Grafana **Dashboard Views**



Refer to *2-2 Basic Operations of the Dashboard Generator* and the *DX Series User's Manual Factory Monitoring Package Edition* for the operation procedure.

Condition Monitoring Package

Dashboard Views (by feature)

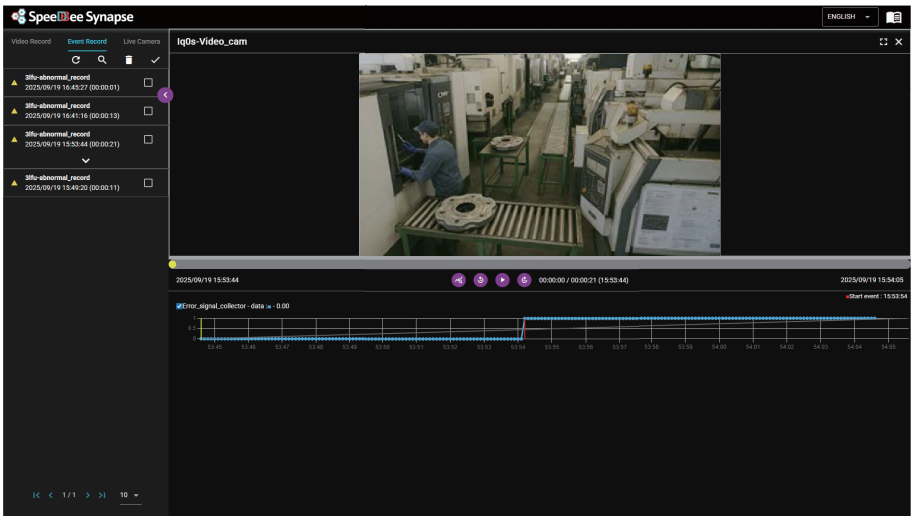


Refer to *2-2 Basic Operations of the Dashboard Generator* and the *DX Series User's Manual Condition Monitoring Package Edition* for the operation procedure.

Event-triggered Video Logging Package

The Event-triggered Video Logging Package utilizes functions provided by SpeeDBee Synapse.

Event Video Screen (i-trigger)



Refer to *2-2 Basic Operations of the Dashboard Generator* and the *DX Series User's Manual - Event-triggered Video Logging Package Edition* for the operation procedure.

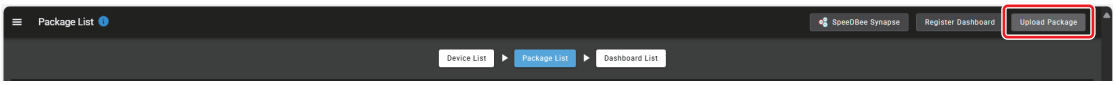
2-4 Installation Procedure for Non-Pre-installed Packages

The basic operations of the Dashboard Generator are the same as those described in *2-3 Pre-installed Package Installation Procedure*.
However, for packages other than pre-installed ones, uploading is required.
Packages other than pre-installed ones refer to the following:

- Packages downloaded by the user that have been edited or created
- Packages provided by OMRON via the web

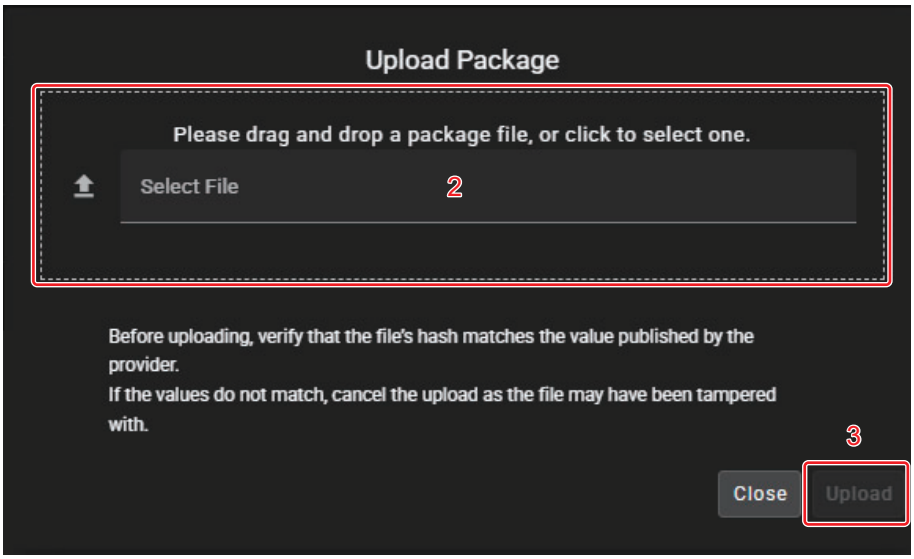
Uploading can be performed after the“Device Selection”step listed in the table in *2-2-1 Operating the Dashboard Generator*.
The following procedure applies after reaching the *Package List Tab Screen*.

1 Click the **Upload Package** Button.



2 Drag and drop the package in ZIP file format, or select it manually.

3 Click the **Upload** Button. (The button becomes active after the file is specified.)



2-5 Changing the Data Storage Location

Precautions for Correct Use

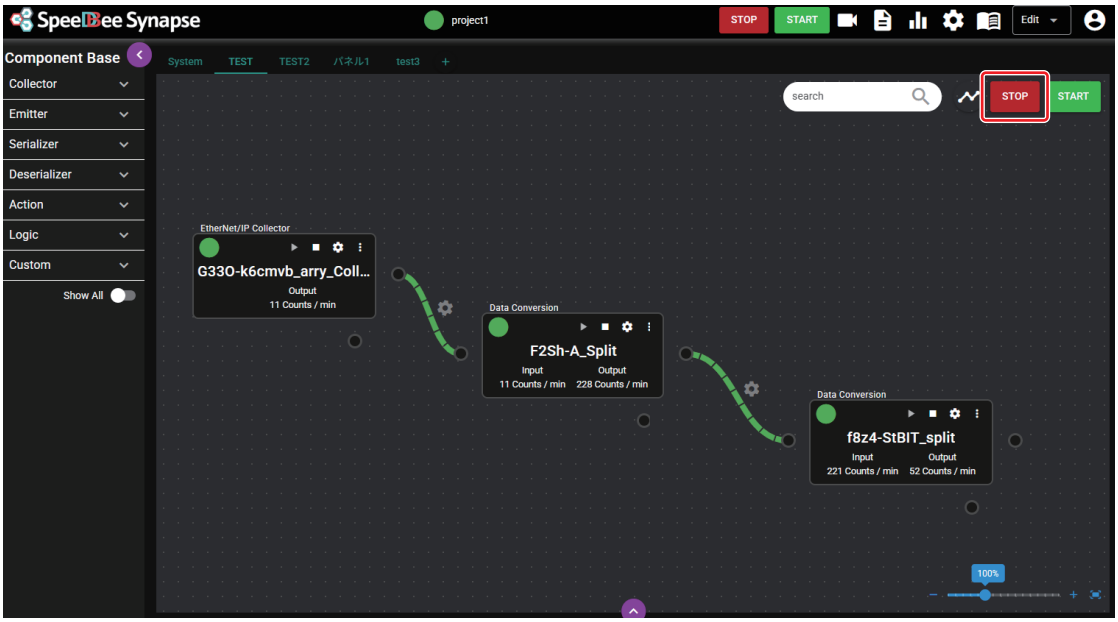
■ Impact of Power Loss on the DX Controller
If the data storage location is set to the default (internal memory), data will be lost in the event of a power shutdown.
It is recommended to change the storage location to an external USB memory device.

■Using the Event-triggered Video Logging Package
Always use an external USB memory device with a capacity of 2GB or more.
The internal memory of the Data Flow Controller does not have sufficient capacity, and event videos cannot be saved.

This section explains how to configure the data storage location on the Data Flow Controller.
By default, data is stored in internal memory.
Enabling the USB port allows data to be stored on an external USB device.
This facilitates long-term data retention and easier data management.
Follow the steps below to change the storage location.
This procedure uses the Condition Monitoring Package (Variable Speed Motor) as an example.

Configuration Procedure

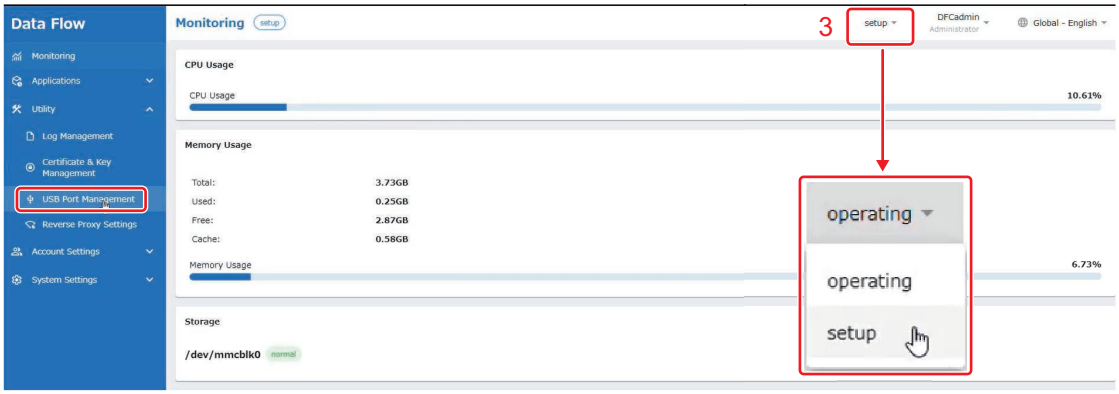
1 On the *SpeeDBee Synapse Screen*, Click the **Stop** Button at the top right.



2 Attach the USB memory to the USB port.

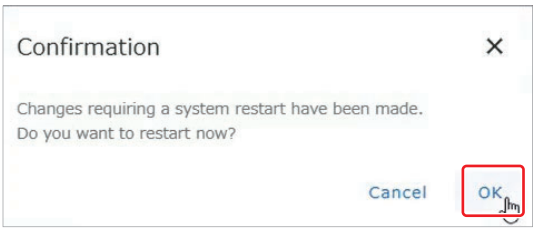
3 Change **operating** to **setup**.

4 Click **USB Port Management** under **Utility**.

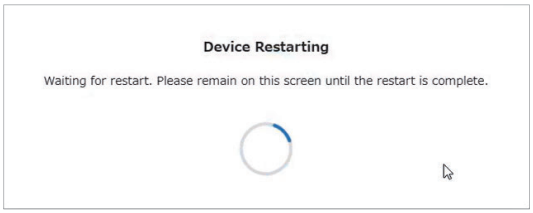


5 Enable **Port Status**.

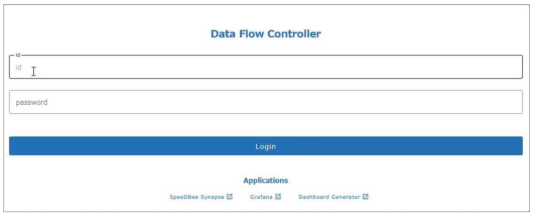
6 On the *Confirmation Screen*, click the **OK** Button.



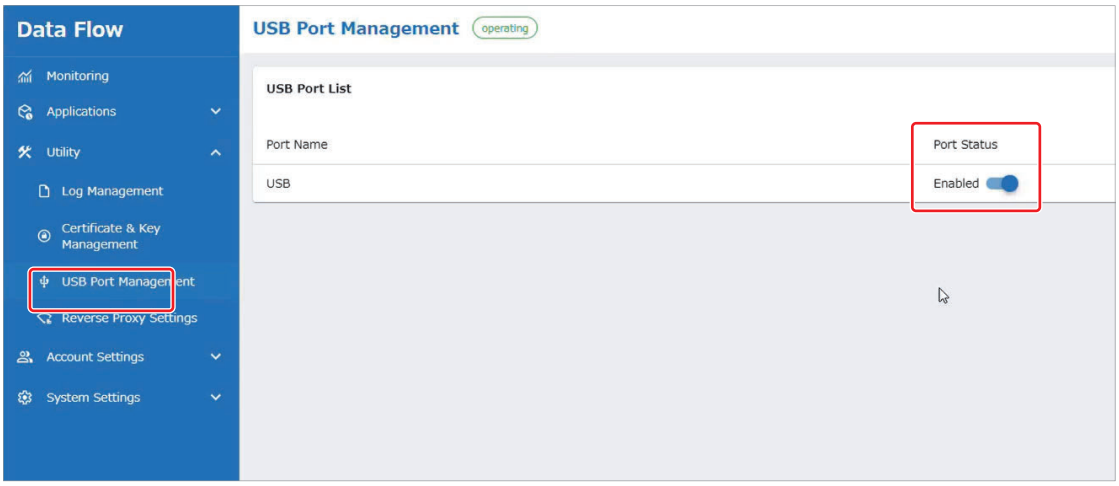
The Data Flow Controller will restart.
Wait on this screen until the restart is complete.



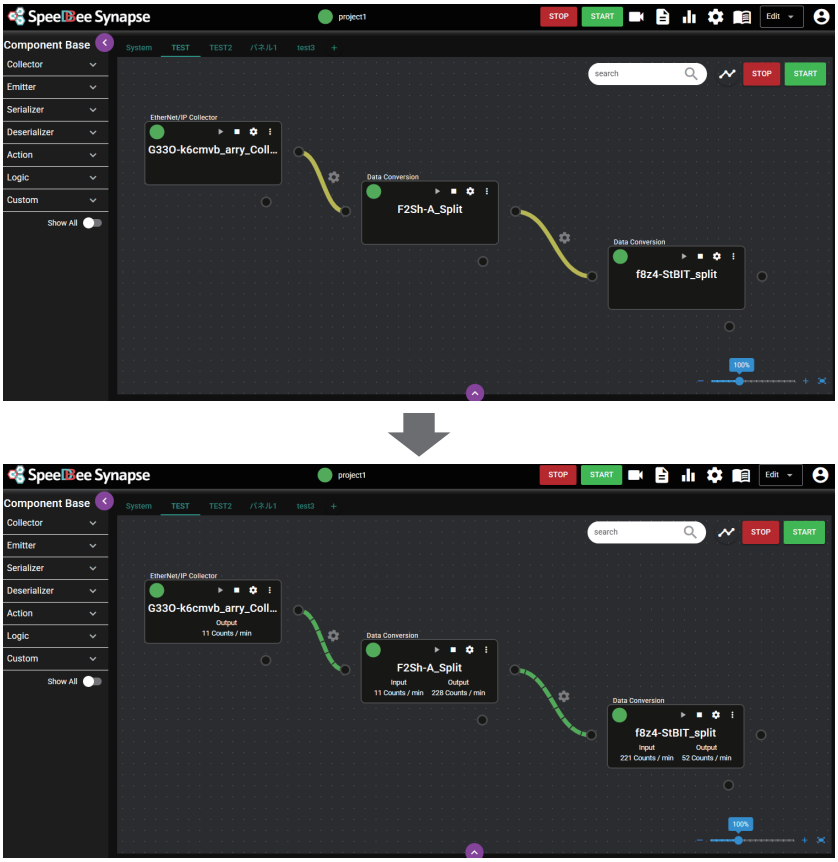
7 After the restart, log in again.



8 Confirm that the **Port Status** is set to Enabled.



9 Switch back to the *SpeeDBee Synapse Screen*, then either wait a moment or click the browser's refresh button.
The flow links will change from yellow to green, indicating that data updates have resumed.



Precautions for Correct Use

■ About Data Before Changing the Storage Location

Only data collected after switching the storage location to USB will be available for display or calculation.
Data collected prior to the change will not be saved and cannot be retrieved. Take note of this limitation.

2-6 Setting the Data Range Handled by the Dashboard

This section explains how to configure the data range to be displayed or calculated on dashboards generated through package installation.
Although data is stored in the internal memory of the DX Controller or on external media, it is necessary to define the data range to be reflected on the dashboard.
If no range is configured, the dashboard will display a minimum of 10 minutes of data by default.

As an example, this section describes the procedure for setting the target period to 60 minutes in the Condition Monitoring Package (Induction Motor, type Vibration).

Precautions for Correct Use

■Relationship with Memory Capacity
If the memory capacity (internal or external) is insufficient for the configured data retention period, the dashboard may not be able to display the entire period as intended.
Use the following as a guideline when determining the upper limit for the retention period:

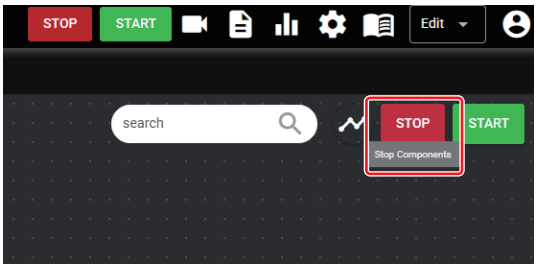
Internal Memory: 1 GB
External USB Memory: Check the capacity of the USB device being used.
Equipment Monitoring Package: Approximately less than 70MB/day
Factory Monitoring Package: Approximately 1kB/day
Condition Monitoring Package (Variable Speed Motor): Approximately 9 MB/day (default acquisition interval: 10 s)
Condition Monitoring Package (Temperature in Control Panels): Approximately 720 MB/day (default acquisition interval: 10 s)
Event-triggered Video Logging Package: Approximately 50kB per video (with 10 seconds before and after the event)
* To extract event videos including the time before the event occurs, a fixed capacity of approximately 1.1GB is required.

For actual memory usage, refer to *6-5 Monitoring Resource Usage* in the *DX-Series Data Flow Controller User's Manual*.

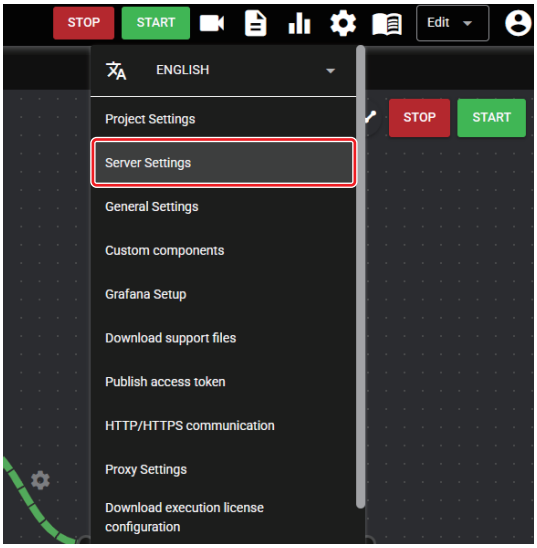
Configuration Procedure

1 On the *SpeeDBee Synapse Screen*, change **Run** at the top right to **Edit**.

2 Click the **Stop** Button.



3 Click the ⚙ and select **Server Settings**.



4 Configure the data retention period.

☑ Specify the storage keep time by group
GroupA: 60 minutes

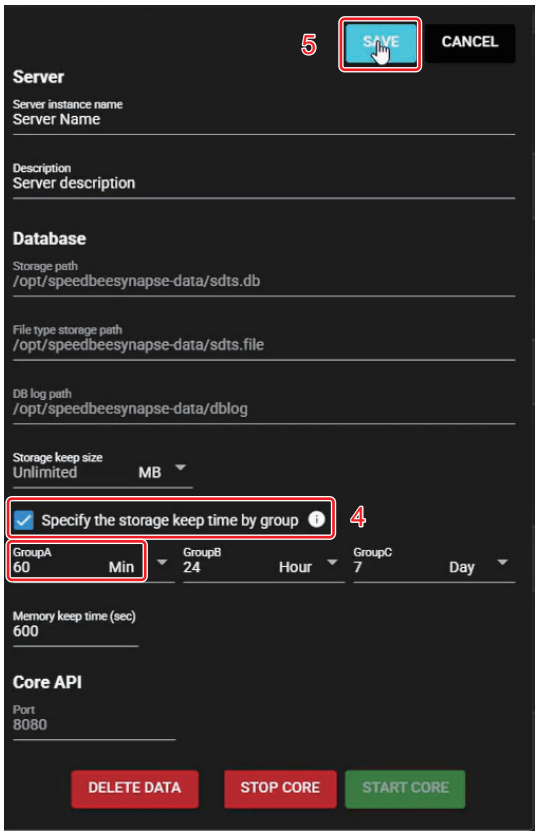
5 Click the **Save** Button.

Due to system-wide constraints, the data retention period that can be reflected on the dashboard is limited for the following packages:

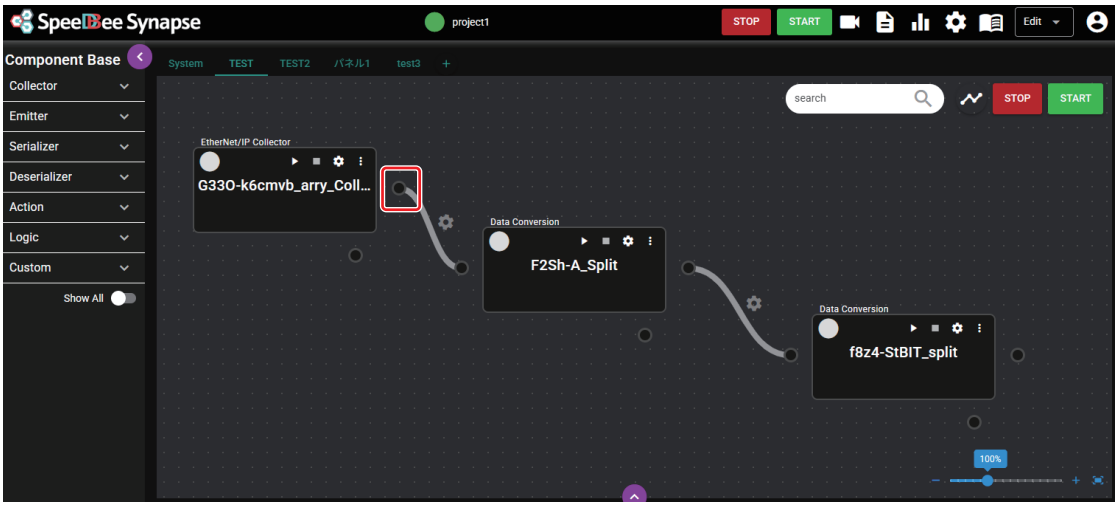
■ Condition Monitoring Package
Up to 10,000 data points can be displayed on the dashboard.
If the number of data points exceeds 10,000, data for the specified period can be displayed by thinning the data using the display interval setting.
For details, refer to the Condition Monitoring Package manual.

■ Equipment Monitoring Package
The displayable data period on the dashboard varies depending on the operating cycle of the monitored equipment.
Use the following as a guideline when configuring the retention period.

Cycle time	Displayable time
500 ms	1.4
1 s	2.8
5 s	13.9
10 s	27.8
30 s	83.3
60 s	166.7



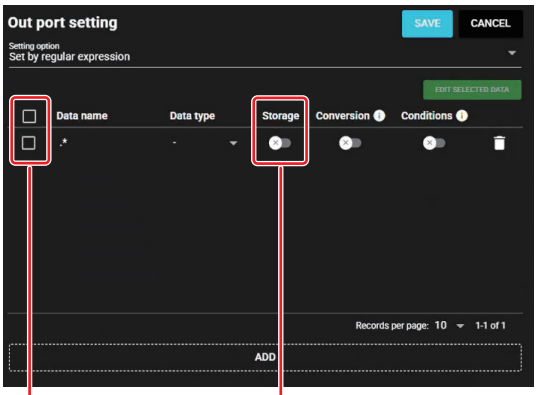
6 Right-click the output port ● of the component.



7 In the *Out port setting Screen*, configure the following:

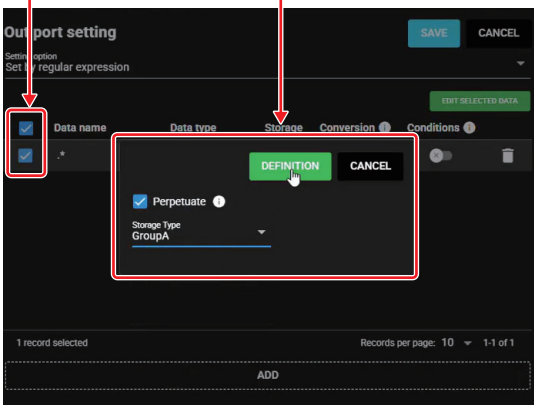
Check the checkbox on the left.

Check **Storage**.

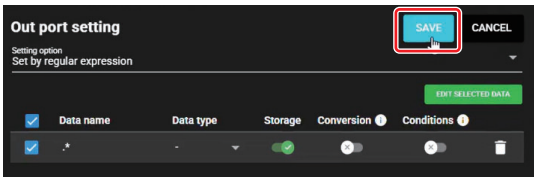


Set the **Storage Type** to **GroupA**.

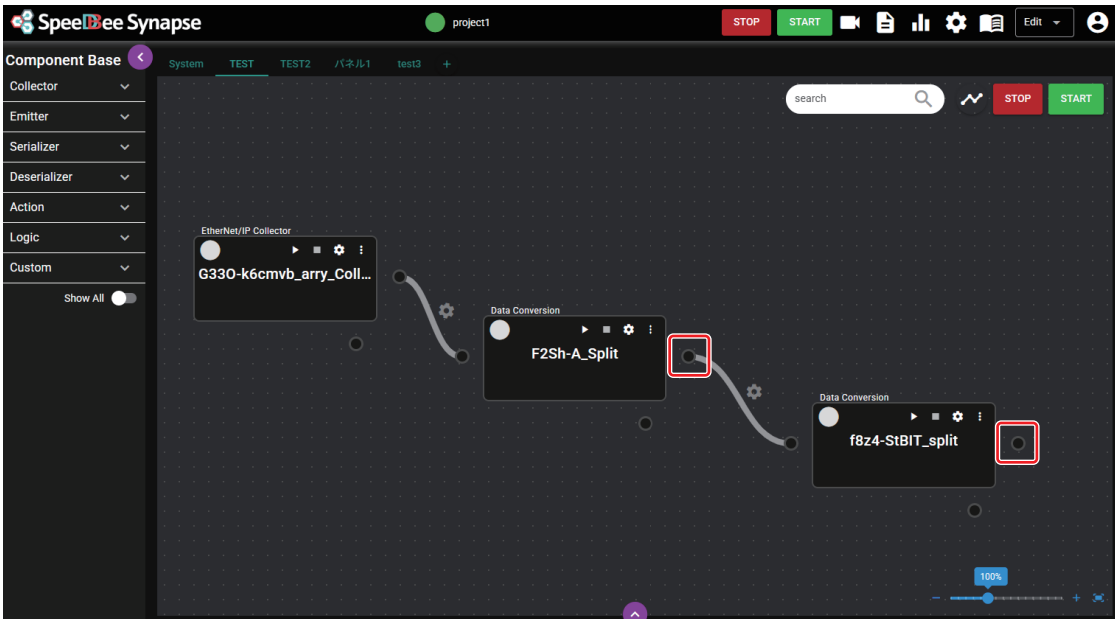
Click the **DEFINITION** Button.



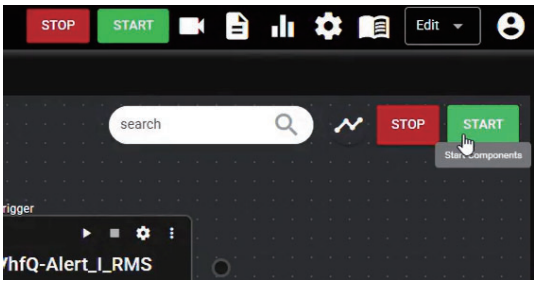
Click the **Save** Button.



8 Repeat steps 6 and 7 for the output ports of each component.



9 Click the **Start** Button.



3

Feature Overview

This chapter describes the features of the Dashboard Generator.

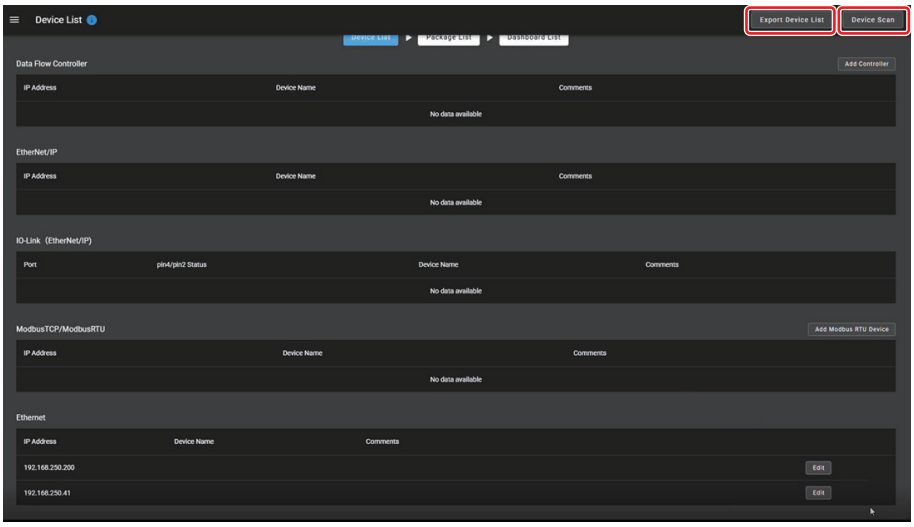
3-1 Feature Overview

The main functions of the Dashboard Generator are as follows:

Function	Description
Device Management	• Device scan *1 • IO-Link master auto configuration • Device list export
Package Management	• Upload • Download • Dashboard registration/deletion
Dashboard Management	• Dashboard display • Select devices/Input configuration values • Threshold/ Alert Settings • Create Package

* Device scan uses ICMP (Internet Control Message Protocol) to check the availability of devices on the network.

3-1-1 Device Management



● Device scan

Retrieves device information connected to the Data Flow Controller and updates the device list screen.
Connected devices are categorized by communication protocol and displayed on the device list screen.
EtherNet/IP devices are automatically categorized.
Devices using other protocols must be manually categorized, and device names must be manually assigned.
Devices are displayed as follows:

- Data Flow Controller
- EtherNet/IP
- IO-Link Master (EtherNet/IP)
- Modbus TCP/ Modbus RTU
- Ethernet

● IO-Link Master Auto Configuration

Automatically configures the IO-Link master to enable communication with connected IO-Link devices.

The following configuration data is retrieved:

- Connection status of IO-Link devices on each port
- Communication mode of each port
- Device information of connected IO-Link devices
- Input and output data size

The following settings are applied:

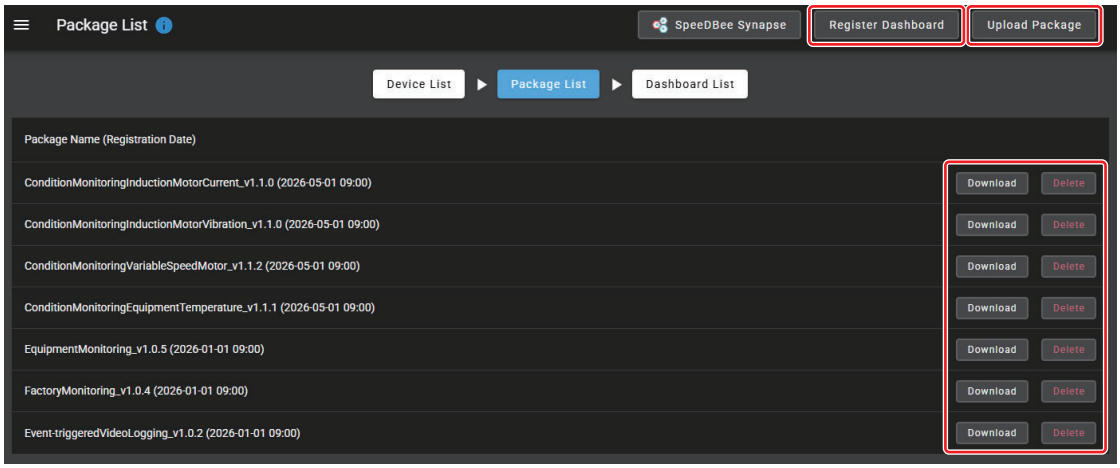
- Change the communication mode of ports with connected IO-Link devices to IO-Link mode
- Configure input and output data size for each IO-Link device

Ports without connected IO-Link devices are not modified.

● Device List Export

Exports device information connected to the Data Flow Controller in CSV format and saves it to a computer.

3-1-2 Package Management



● Dashboard Registration

By completing the following registration steps, the configuration for SpeeDBee Synapse*1 and the Grafana dashboard will be automatically set up:

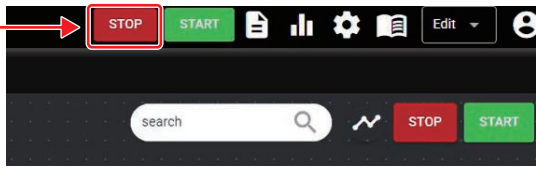
- Select a package
- Enter equipment identification information
- Select a device
- Input configuration values

*1 This refers to the configuration process of placing components on the panel and connecting flow links between them.

Precautions for Correct Use

When registering a new dashboard, ensure that Synapse is stopped before proceeding.
When registering a dashboard, packages that include custom components may take longer to complete.

Stops the entire Synapse system.
Use this button to perform the shutdown.



● Upload

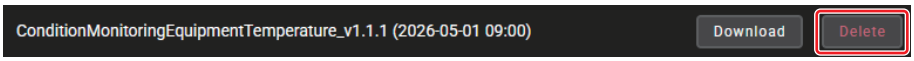
Use this function when utilizing packages that are not pre-installed.
Uploading the required package (ZIP file) to the Dashboard Generator enables dashboard registration.
In the Package List screen, select “Upload Package” and drag and drop the ZIP file into the upload dialog to complete the upload process.
Packages with the same name cannot be uploaded.
Ensure that the name does not conflict with any package that has already been uploaded.

● Download

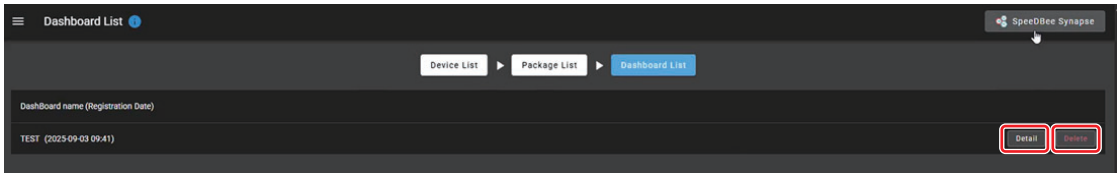
Packages listed in the Package List screen can be downloaded as ZIP files for use on other DX devices.
Select the desired package and download it in ZIP format.

● Delete

Pressing the **Delete** Button allows you to delete the package.
If the package is deleted by mistake, it can be used again by uploading the package (ZIP file) downloaded from the OMRON license portal (https://license-user.automation.omron.com/) to the Dashboard Generator.



3-1-3 Dashboard Management



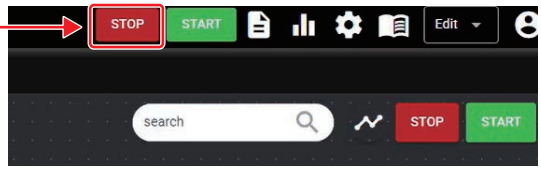
● Delete Button

Deletes the target Grafana dashboard and the corresponding Synapse panel.
Although panel deletion can also be performed within Synapse, always use the **Delete** Button in the *Dashboard List Screen* to carry out this operation.
This ensures system consistency and prevents unexpected issues.

Precautions for Correct Use

When performing a deletion, ensure that Synapse is stopped before proceeding.

Stops the entire Synapse system.
Use this button to perform the shutdown.



● Detail (Show Dashbord)

Opens the Grafana dashboard.

● Detail (Select Devices / Set Parameters)

Allows you to change the device address and acquisition interval.
If there are package-specific configuration values, they can be changed using this button.

● Detail (Edit Equipment Identification)

Allows you to change the factory name, line name, process name, and equipment name.

● Detail (Threshold/ Alert Settings)

Pressing this button allows you to configure threshold values for each KPI using the **Threshold/ Alert Settings** of the target dashboard.
The Threshold/ Alert Settings function in the Dashboard Generator can only be used with the Equipment Monitoring Package. The Condition Monitoring Package uses the thresholds and alarms configured in the condition monitoring device. No configuration is required in the Dashboard Generator. For details, refer to the Condition Monitoring Package User's Manual.
The **Threshold/ Alert Settings** is described below.

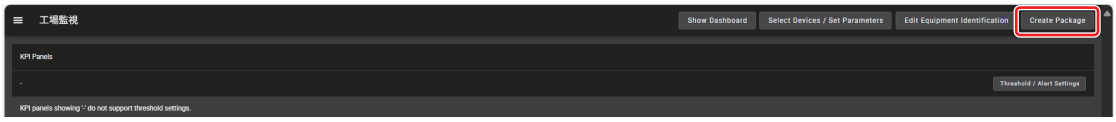
- This function automatically calculates and sets thresholds and alerts for KPIs displayed on the dashboard.
- SpeeDBee Synapse is referenced to automatically calculate thresholds based on data from a specified time period.
- The calculated thresholds are presented as input suggestions, and users can manually enter values to finalize the threshold settings.
- If thresholds or alerts have already been configured, the existing values will be displayed in the input fields.
- Thresholds can be set when the Grafana panel is configured as a time-series graph or bar chart.

- In the initial state after dashboard registration, thresholds are not set, and the pre-installed Grafana package always displays “Normal.”
- The types of thresholds and their configuration methods are as follows.

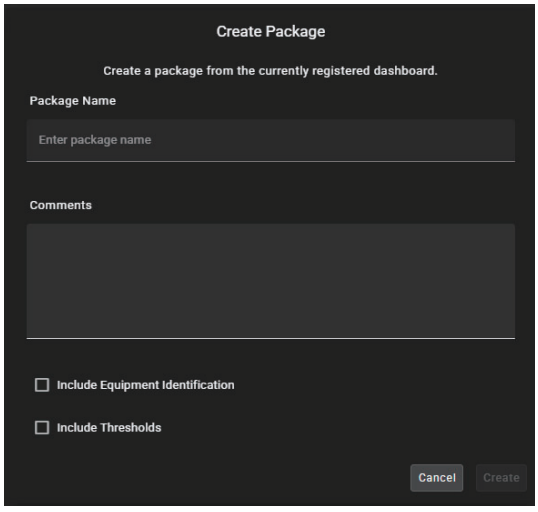
Types of threshold	Configuration method	Operation
Absolute Value Threshold (Manual Input)	The user manually enters a fixed reference value.	An alert is triggered when the measured value exceeds or falls below the configured absolute value.
Range Threshold (Manual Input)	The user manually enters minimum and maximum values and specifies the target range.	An alert is triggered when the measured value is outside the specified range (less than the minimum or greater than the maximum), or within the range (greater than or equal to the minimum and less than the maximum), depending on the configuration.
Maximum Value Threshold (Auto Calculation)	SpeeDBee Synapse retrieves data for the specified period and automatically calculates the maximum value.	The result is presented as a suggested input, and the user registers it as the threshold.
Average Ratio Threshold (Auto Calculation)	SpeeDBee Synapse retrieves data for the specified period and automatically calculates the average value.	The system calculates the average value for the specified period and determines a ratio-based range (e.g., ±20%). The result is presented as a suggested input, and the user confirms and manually sets the threshold.
Standard Deviation-Based Threshold (Auto Calculation)	SpeeDBee Synapse retrieves data for the specified period and automatically calculates the average and standard deviation (nσ) .	The system calculates the average and standard deviation (nσ) for the specified period and determines the range as average ± nσ. The result is presented as a suggested input, and the user confirms and manually sets the threshold.

● Detail (Create Package)

The Create Package function allows you to generate a package from a currently registered dashboard. This can be used when saving a backup.
Click the **Detail** Button to display the **Create Package** Button, as shown in the screen below.



Enter the package name and other required information, then click the **Create** Button to generate the package.



4

Troubleshooting

This section describes what you should do when an error occurs.

4-1 Dashboard Generator

The table below shows how to deal with errors.

Issue	Possible Cause	Solution
An error icon (query error) appears on the Grafana panel.	Synapse is not linked with Grafana.	Link Synapse with Grafana. For details, refer to the Synapse manual.
Synapse is running, but no data is displayed in Grafana.	Synapse was linked with Grafana after the dashboard was registered.	Delete the current dashboard and register it again.
The application does not start when USB is enabled.	USB device is not inserted.	Insert the USB device and restart the system.

A

Appendices

A-1 Dashboard Data Management and Security

A-1-1 Data Storage Methods

There are two methods for storing data measured by the dashboard:

- **Save to USB**
  A USB memory device can be attached to the Data Flow Controller. Change the data storage destination accordingly. Before turning off the power, be sure to perform a proper shutdown of the Data Flow Controller. If the power is turned off without shutting down, there is a risk of data corruption.

- **Save to External Device**
  This method saves data to an external device connected to the Data Flow Controller. In this method, a USB memory device is not required. Data is temporarily stored in the Data Flow Controller and then transferred to external devices using SpeeDBee Synapse's emitter or database query functions. This method eliminates the risk of data corruption, but users must perform data visualization themselves.

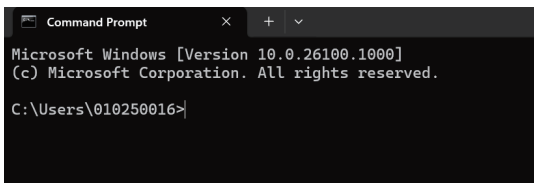
A-1-2 Security Considerations

Package Tampering Prevention

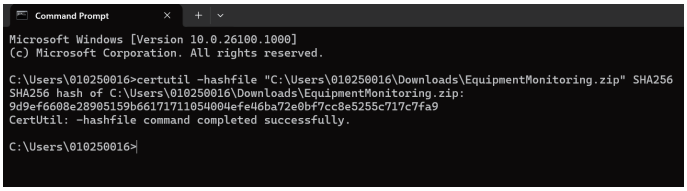
Packages (ZIP files) provided by OMRON via the web include Python scripts.
If these files are tampered with on the user's PC after download, there is a risk that unauthorized operations may be executed on Synapse.
To mitigate this risk, hash values are provided alongside the packages, and users are instructed to verify the hash before importing.
For packages exported from the Dashboard Generator, users must calculate and manage the hash value themselves and verify it during future imports to ensure file integrity.

- **Hash Verification Procedure**

1 **Launch Command Prompt**



2 **Enter the following command:**
certutil -hashfile "file path" SHA256
The hash value will be displayed.



User Information Protection

When exporting a package (ZIP file) from the Dashboard Generator, users can choose whether to include user information.
If user information is included, it is recommended to encrypt the package to prevent data leakage.
Decryption must be performed before importing to ensure secure handling.

Tampering Prevention in IO-Link Master Communication

When using non-secure communication protocols, do not connect devices directly to the internet or untrusted networks.
Always operate within a closed network environment.

Credential Handling

The Data Flow Controller supports both “http” and “https” communication methods.
When transmitting credentials such as passwords or access tokens, always use “https.”
Using “http” may expose sensitive information due to lack of encryption.
To ensure security, “https” is strongly recommended.

Secure Use of IO-Link Masters

IO-Link masters configured via the Dashboard Generator do not support CIP Safety.
Therefore, use them in secure environments or ensure the network is protected from external threats.

Safe Handling of Package Files

Package files may contain important configuration data and customer assets.
Saving or sharing these files without encryption poses a risk of data leakage.
Always encrypt files before sharing externally or with third parties.

A-2 Simultaneous Use of Multiple Packages

When using multiple packages simultaneously on a single Data Flow Controller, stable operation may not be possible depending on the number and combination of packages.
Be sure to check operation in your environment before deciding on the number and combination of packages to use.

Operation verification for pre-installed packages has been conducted under the following conditions:

- Factory Monitoring Package, Equipment Monitoring Package ×2, Event-triggered Video Logging Package ×1 *1
- Equipment Monitoring Package ×2, Condition Monitoring Package (Variable Speed Motor) ×2, Event-triggered Video Logging Package ×1 *1
- Equipment Monitoring Package ×3, Condition Monitoring Package (Variable Speed Motor) ×3
- Condition Monitoring Package (Variable Speed Motor) ×5

*1 When using the Event-triggered Video Logging Package, always use an external USB memory device with a capacity of 2GB or more.
For instructions on using USB memory, refer to *2-5 Changing the Data Storage Location* on page 2-8.

OMRON Corporation **Industrial Automation Company**

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Contact for inquiries for this product (only for DX-series)

DataPF-contactdesk-OC@omron.com

Operation Hours: 9:00 to 17:00 (except Saturdays, Sundays, and Dec. 31 to Jan. 3), JST

Tutorial Video

https://www.fa.omron.co.jp/dx1/video-manual/en/

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